Technical Data Sheet

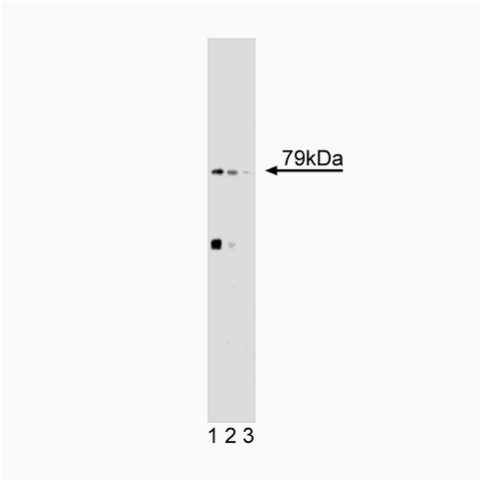
Purified Mouse Anti-5-Lipoxygenase

Product Information

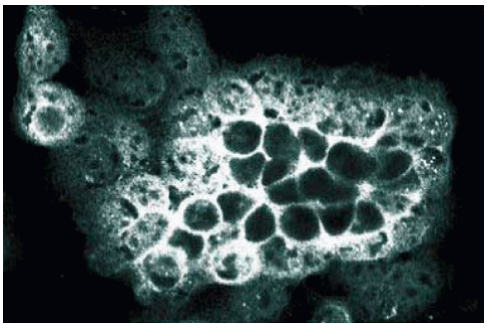
Material Number:	**610694**
Size:	50 µg
Concentration:	250 µg/ml
Clone:	33/5-Lipoxygenase
Immunogen:	Human 5-Lipoxygenase aa. 442-590
Isotype:	Mouse IgG1
Reactivity:	QC Testing: Chicken Tested in Development: Human, Rat, Mouse
Target MW:	79 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

Description

5-Lipoxygenase (5-LO) is the initial enzyme that converts arachidonic acid to leukotrienes, which are important inflammatory and vasoconstrictive metabolites. It is activated in response to a number of stimuli, such as differentiation and allergen challenges. The 5-LO gene, abundantly expressed in placenta, lung, and leukocytes, encodes a protein of 674 amino acids with an apparent molecular weight of 78kDa. 5-LO is a Ca2+ and ATP-dependent enzyme that translocates from the cytosol to either a nuclear or plasma membrane compartment following activation. A proline-rich domain of 5-LO (amino acids 566-577) has been identified as a binding site for the PTyr-binding protein, Grb2. This Grb2 site links tyrosine kinases with activation and redistribution of 5-LO. Furthermore, tyrosine kinase inhibitors increase the activity of 5-LO and block the enzyme's subcellular redistribution.



Western blot analysis of 5-Lipoxygenase on SL-29 lysate. *Lane 1: 1:250, lane 2: 1:500, lane 3: 1:1000 dilultion of 5-Lipoxygenase.*



Immunofluorescence staining of A431 cells

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
Store undiluted at -20°C.

Application Notes

Application

Western blot	Routinely Tested
Immunofluorescence	Tested During Development
Immunoprecipitation	Not Recommended
Immunohistochemistry	Not Recommended

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Suggested Companion Products

Catalog Number	Name	Size	Clone
554002	HRP Goat Anti-Mouse Ig	1.0 ml	(none)
554001	FITC Goat Anti-Mouse Ig	0.5 mg	Polyclonal
611478	SL-29 Cell Lysate	500 µg	(none)

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.

References

Hundley TR, Prasad AR, Beaven MA. Elevated levels of cyclooxygenase-2 in antigen-stimulated mast cells is associated with minimal activation of p38 mitogen-activated protein kinase. *J Immunol.* 2001; 167(3):1629-1636.(Clone-specific: Western blot)

Lepley RA, Fitzpatrick FA. 5-Lipoxygenase contains a functional Src homology 3-binding motif that interacts with the Src homology 3 domain of Grb2 and cytoskeletal proteins. *J Biol Chem.* 1994; 269(39):24163-24168.(Biology)

Lepley RA, Muskardin DT, Fitzpatrick FA. Tyrosine kinase activity modulates catalysis and translocation of cellular 5-lipoxygenase. *J Biol Chem.* 1996; 271(11):6179-6184.(Biology)

Matsumoto T, Funk CD, Radmark O, Hoog JO, Jornvall H, Samuelsson B. Molecular cloning and amino acid sequence of human 5-lipoxygenase. *Proc Natl Acad Sci U S A.* 1988; 85(1):26-30.(Biology)

Zaitsu M, Hamasaki Y, Matsuo M. New induction of leukotriene A(4) hydrolase by interleukin-4 and interleukin-13 in human polymorphonuclear leukocytes. *Blood.* 2000; 96(2):601-609.(Clone-specific: Western blot)